

REMARKS

This paper amends claims 6, 8, 19, 21, and 49. Claims 7 and 20 have been canceled. Claims 6, 8-10, 19, 21-24, 34-37 and 49-54 remain.

All pending claims have been rejected under 35 USC §102 in view of Naik. Claims 6, 19, 34 and 49 are independent claims. Reconsideration is respectfully requested.

The Office Action cites Figures 4A-4J of Naik. Naik discloses a negative mask process in Figures 4A-4J. Naik, further discloses that a positive mask scheme may be employed by using “a mask structure essentially opposite to that of the negative tone process.” [Naik, Col. 6, paragraph 0059]. The pending claims are all limited to a positive mask scheme. As such, the applicability of the Naik Figures 4A-4J is limited to consideration of such disclosure in a positive or opposite manner as shown in Figures 4A-4J.

Independent Claim 6

The limitations of dependent claim 7 and additional limitations have been added to claim 6, and dependent claim 7 is now canceled.

As amended it has been clarified that the last element of the claim includes the formation of an insulative layer. The insulative layer is formed “from said non-exposed portions of said photo-definable layer which remain after the positive mask scheme and are then subsequently converted to an insulative layer through exposure to further electro-magnetic radiation.” There is no disclosure in Naik (whether in the positive mask scheme or negative mask scheme) to utilize a process in which region of the photo-definable layer that remain after the mask scheme (regions 408 are then subsequently converted to an insulative layer through exposure to further electro-magnetic radiation. Rather, as disclosed in Naik the regions that remain after the photo masking step are not subsequently subjected to further radiation.

It is respectfully asserted that independent claim 6 and dependent claims 8-10 are patentably distinct from the cited art.

Independent Claim 19

The limitations of dependent claim 20 and additional limitations have been added to claim 19, and dependent claim 20 is now canceled.

As amended claim 19 now requires the insulative layer to comprise an oxide layer and “the non-exposed portions of said photo-definable layer are utilized to mask the oxide layer to form said patterned insulative layer.” As shown in Naik Figures 4A-4J, the PPMS layer 408 is placed on a low K dielectric layer 406 which is placed on a layer 404 which may be either silicon dioxide or silicon nitride. [Naik, paragraph 0054]. As shown in Figures 4F-4G of Naik, the PPMS layer 408 is utilized as a mask for the etch of the low K dielectric layer 406. As shown in Figures 4H and 4I, for etching of the oxide layer 404 the low K dielectric layer 406 is utilized as a mask, not the PPMS layer 408. In contrast the present claims require the use of non-exposed portions of the photo-definable layer to be utilized to mask the oxide layer. As such it is respectfully asserted that Naik fails to teach or suggest independent claim 19 and dependent claims 21-24.

Independent Claim 34

With regard to independent claim 34, the Office Action cites Naik Figures 3A-I. It is respectfully asserted, however, that the Office Action has misunderstood the composition of certain layers in Naik.

In particular, the Office Action states that layers 302 and 324 are both a “conductive layer”. It is respectfully noted that layers 302, 312, 314, and 324 are all insulative layers however. In particular layer 302 is a low K material [Naik paragraph 0044], layer 312 is a copper passivation layer “for example silicon nitride” [Naik paragraph 0048], layer 314 is a second low K material [Naik paragraph 0049] and layer 324 is a second copper passivation layer [Naik

paragraph 0049]. As such it is respectfully asserted that Naik fails to teach or suggest independent claim 19 and dependent claims 21-24.

Independent Claim 49


Independent claim 49 is directed toward a claimed embodiment which includes the use of both a photodefinable layer that can be converted to an insulative material (for example a PPMS layer than can be converted to an insulative material) in combination with the use of a separate organic photoresist layer. That these are two different layers is clarified through the claim language “covering a photo-definable layer with a separate patterned organic photoresist.” The Office Action cites Figures 4A-4J of Naik with regard to claim 49. In particular the Office Action cites the PPMS layer 408 of Naik as being the photodefinable layer. [Office Action p. 5]. However, nothing is pointed to in Naik as disclosing the separate organic photoresist layer that covers the photo-definable layer. It is respectfully asserted that Naik does not teach or suggest the use of an organic photoresist layer in addition to the PPMS layer 408. As such, it is respectfully asserted that Naik fails to teach or suggest independent claim 49 and dependent claims 50-54.

CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Accordingly, favorable reconsideration and Notice of Allowance are courteously solicited.

The examiner is invited to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Respectfully submitted,



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